

Overview

Sustainable Design: Years 11-12



Toohey Forest
**Environmental
Education
Centre**



Design

Unit 4: Sustainable design

Topic 1: Explore – sustainable design opportunities

Topic 2: Develop redesign

Learning Goals

- **Recognise** the economic, social and ecological impact of sustainable design on the wellbeing of humans
- **Identify** sustainable design features utilised within the EcoCentre building
- **Evaluate** the effectiveness of these features in meeting the stakeholders brief
- **Recommend** opportunities for the redesign of the EcoCentre to better meet the needs and wants of current users
- **Justify** the design solutions and the benefits to the stakeholders

Overview

Sustainable Design is a whole day program introducing students to the economic, social and ecological considerations of design and how they improve peoples' well-being. The program enables students to develop an appreciation of the links between resource use, conservation and environmental sustainability. The program also challenges students to consider redesign opportunities to better meet the needs and wants of the current stakeholders.

During the program students will undertake a self-guided tour of the EcoCentre to identify the environmental benefits of a range of passive and active sustainable design features (e.g. rammed earth walls, natural ventilation, solar energy generation and water conservation). Students will then compare these to the Sir Samuel Griffith Centre at Griffith University which is Australia's first zero-emission, self-powering teaching and research facility. The building has been given a 6-star green rating and runs on hydrogen and solar power.

In small groups students will work collectively to apply their new knowledge to construct a house using sustainable design features. In groups the students will consider various features and budget constraints in an effort to reduce their resource use while constructing a home which would be appealing to the occupant.

Finally, students will recommend and justify opportunities for the redesign of the EcoCentre to better meet the needs and wants of current users.

Sustainable Design has been assessed as medium risk. A Curriculum Activity Risk Assessment is available on request.

